

810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990

1000

2phk_A|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1kwp_A SⁿNPLIEKRK-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

32563958.w QSAASTILOQTPSN-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

17535673.w QSAASTILOQTPSN-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

24646075.f ~ER~NIVQPSQAYMDAYSDENYNPKPPGYTRNRSCRN|PASSLCCYGGRMSSMHQRANGRRSSRNASRNASATIYNNGGFKFLNVHEEDDDCCELEAFGHIDDDDEWSR|RREYQQQCTLGEDRFRROSSEGDEVEDDEGENEDYQHYKHYWRLEDDEECDYLYEQQQRVDDDFGEEEFEDEPKEQTQADNLKLS

24646073.f ~ER~NIVQPSQAYMDAYSDENYNPKPPGYTRNRSCRN|PASSLCCYGGRMSSMHQRANGRRSSRNASRNASATIYNNGGFKFLNVHEEDDDCCELEAFGHIDDDDEWSR|RREYQQQCTLGEDRFRROSSEGDEVEDDEGENEDYQHYKHYWRLEDDEECDYLYEQQQRVDDDFGEEEFEDEPKEQTQADNLKLS

31207767.i KER~NIVQPS-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

34862294.D QQPVLIRATR-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

10946852.m DQPVVIRATS-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

MNK2.h DSHEFLLPPHP-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

35903023.d DSPQVITASS-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

34870347.m EEEHALAEGL-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

10946850.m EEEPAELAEGL-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

MNK1.h EEEPAELDGL-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1jkk_A

34935429.m AKRRKM**KRTSTS**-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

lia8_A TETR**SSSESSRSSSS**-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1010 1020 1030 1040 1050 1060 1070 1080 1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190

1200

2phk_A|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1kwp_A

32563958.w LMNRRIADT~~L~~SLARFDNKMTMSEC~~G~~SDLG~~T~~AT~~I~~HGDG~~F~~LSMG~~G~~EPFG~~T~~PRKKS~~R~~S~~G~~FT~~P~~PSL~~S~~FA~~P~~SSNG~~D~~SI~~C~~SP~~M~~VFD~~D~~MSI~~S~~OLF~~G~~TG~~A~~LLTSV~~Q~~MT~~P~~RH~~T~~TEDDA~~S~~LKSF

17535673.w LMNRRIADT~~L~~SLARFDNKMTMSEC~~G~~SDLG~~T~~AT~~I~~HGDG~~F~~LSMG~~G~~EPFG~~T~~PRKKS~~R~~S~~G~~FT~~P~~PSL~~S~~FA~~P~~SSNG~~D~~SI~~C~~SP~~M~~VFD~~D~~MSI~~S~~OLF~~G~~TG~~A~~LLTSV~~Q~~MT~~P~~RH~~T~~TEDDA~~S~~LKSF

24646075.f KAYVEQVGETINVEKS**K**QDDNGGYIREDLIM~~N~~MDMKNT~~T~~Q~~S~~EFAKL~~T~~IMRNDA~~Q~~T~~E~~ENKIM~~Q~~QD~~E~~EEKEK~~Q~~QDV~~G~~AKKKQGPSSDI~~S~~ATT~~I~~TDNNKL~~Q~~TPV~~M~~TTTHINNWQ~~T~~GDA~~E~~DDDV~~K~~LDS~~I~~DLNEKLP~~E~~ITYETANIVVN~~S~~AAVPA~~A~~ST~~P~~ATR~~P~~TDN~~P~~BEEDDSNVT~~K~~TTTAEGITMOT~~T~~FGMSA

24646073.f KAYVEQVGETINVEKS**K**QDDNGGYIREDLIM~~N~~MDMKNT~~T~~Q~~S~~EFAKL~~T~~IMRNDA~~Q~~T~~E~~ENKIM~~Q~~QD~~E~~EEKEK~~Q~~QDV~~G~~AKKKQGPSSDI~~S~~ATT~~I~~TDNNKL~~Q~~TPV~~M~~TTTHINNWQ~~T~~GDA~~E~~DDDV~~K~~LDS~~I~~DLNEKLP~~E~~ITYETANIVVN~~S~~AAVPA~~A~~ST~~P~~ATR~~P~~TDN~~P~~BEEDDSNVT~~K~~TTTAEGITMOT~~T~~FGMSA

31207767.i -VVE~~T~~GNAQP~~N~~S-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

34862294.m RQFASLSATPVVLVLCDF~~V~~F~~L~~VKGCLSSQRP~~A~~H~~R~~V~~F~~VLAVGS~~V~~F~~A~~M~~G~~M~~A~~T~~S~~TEIELD**D**VEPA~~A~~FLALL~~K~~FLY~~S~~D~~E~~VQIGP~~E~~T~~V~~MTTLTY~~T~~AKKYAVPA~~E~~AH~~C~~EFLKKHLRADNAFLMLLTQARLFDEPQLASL~~C~~LESIDKN~~T~~ADAIAAE~~G~~FTDID

10946852.m RQFASLSATPVVLVGC~~R~~A-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

MNK2.h NE

35903023.d RQF**S**LLKGAPV~~S~~ASEL**R**QLLA~~P~~L~~V~~IVGC~~D~~C-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

34870347.m RAIAHAG~~R~~ REANS~~C~~ST~~P~~AGL~~R~~-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

10946850.m RAIAQAG~~R~~DAN~~P~~C~~I~~UT~~P~~AGL~~R~~-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

MNK1.h RAIAQAG~~R~~RGEDR~~S~~P~~T~~AL~~R~~-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1jkk_A

34935429.m HSHGK~~T~~TP~~T~~KT~~L~~QP~~S~~NP~~T~~E~~G~~NS~~P~~D~~T~~LF~~O~~F~~S~~D-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

lia8_A

1210 1220 1230 1240 1250 1260 1270 1280 1290 1300 1310 1320 1330 1340 1350 1360 1370 1380 1390

1400

2phk_A|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1kwp_A

32563958.w DEQENANPIHRIETQVN~~V~~-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

17535673.w DEQENANPIHRIETQVN~~V~~-|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

24646075.f EEEECPVALSHAGHSK**T**GRTVNFA~~P~~DAYQND~~E~~DA~~D~~AD~~I~~DED~~D~~Y~~D~~EENI~~H~~EHSK**Q**QL~~P~~SNAY~~T~~RKQRQHQ~~R~~Y~~I~~IV~~R~~Y~~Q~~~~L~~AD~~Q~~V~~P~~Q~~R~~~~Q~~H~~T~~EN~~W~~RY~~T~~TH~~H~~S~~Q~~EQ~~Q~~P~~T~~AD~~Y~~R~~K~~Y~~R~~PF~~S~~STGGGGHHGN~~Q~~Q~~R~~NY~~L~~GS~~F~~SHSGGAAGY~~K~~IA~~M~~~~P~~~~P~~~~P~~~~M~~~~O~~~~P~~~~P~~~~R~~H~~N~~SAG~~S~~GS~~G~~GS~~G~~GS~~G~~PP~~S~~~~D~~~~B~~QS~~A~~~~I~~~~R~~~~N~~~~W~~R~~Q~~DC~~V~~~~Y~~~~A~~~~R~~~~S~~~~C~~GMN

24646073.f EEEECPVALSHAGHSK**T**GRTVNFA~~P~~DAYQND~~E~~DA~~D~~AD~~I~~DED~~D~~Y~~D~~EENI~~H~~EHSK**Q**QL~~P~~SNAY~~T~~RKQRQHQ~~R~~Y~~I~~IV~~R~~Y~~Q~~~~L~~AD~~Q~~V~~P~~Q~~R~~~~Q~~H~~T~~EN~~W~~RY~~T~~TH~~H~~S~~Q~~EQ~~Q~~P~~T~~AD~~Y~~R~~K~~Y~~R~~PF~~S~~STGGGGHHGN~~Q~~Q~~R~~NY~~L~~GS~~F~~SHSGGAAGY~~K~~IA~~M~~~~P~~~~P~~~~P~~~~M~~~~O~~~~P~~~~P~~~~R~~H~~N~~SAG~~S~~GS~~G~~GS~~G~~GS~~G~~PP~~S~~~~D~~~~B~~QS~~A~~~~I~~~~R~~~~N~~~~W~~R~~Q~~DC~~V~~~~Y~~~~A~~~~R~~~~S~~~~C~~GMN

31207767.i

34862294.m LDTEVA~~V~~AVLERD~~T~~LG~~I~~R~~E~~VR~~L~~F~~N~~A~~V~~W~~S~~E~~A~~E~~C~~~~R~~Q~~Q~~L~~Q~~V~~T~~PE~~N~~K~~R~~K~~V~~~~G~~L~~A~~G~~L~~R~~F~~PL~~M~~T~~I~~E~~F~~E~~A~~G~~P~~A~~Q~~~~S~~Q~~I~~L~~V~~D~~R~~V~~E~~V~~L~~F~~L~~IFT~~V~~N~~K~~P~~R~~V~~E~~F~~I~~D~~R~~RC~~C~~L~~R~~G~~K~~E~~C~~S~~I~~N~~R~~F~~Q~~Q~~V~~E~~S~~R~~W~~G~~Y~~S~~G~~T~~D~~R~~I~~R~~S~~V~~N~~K~~R~~I~~F~~V~~V~~G~~F~~GL~~Y~~G~~I~~H~~G~~P~~T~~Y~~Q~~N~~I~~Q~~I~~H~~T~~D~~E~~N~~T~~V~~L~~G~~Q~~N~~D~~T~~G~~F~~S~~CD~~G~~A~~S~~T~~F~~R~~V~~MF~~K~~B~~P~~V~~E~~V~~L~~N

10946852.m MNK2.h

35903023.d

34870347.m

10946850.m MNK1.h

1jkk_A

34935429.m lia8_A

1410 1420 1430 1440 1450 1460 1470

2phk_A|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....

1kwp_A

32563958.w

17535673.w

24646075.f QGPE~~Q~~RHNRSSGQRVQQQPRIGSGRF~~A~~~~H~~~~Q~~AAQLM~~D~~ELPD~~M~~NR~~I~~G~~L~~S~~P~~~~P~~~~S~~E~~V~~~~L~~~~I~~~~R~~~~R~~~~Q~~~~Q~~RANDLSEY~~C~~E~~P~~A~~T~~~~S~~G

24646073.f QGPE~~Q~~RHNRSSGQRVQQQPRIGSGRF~~A~~~~H~~~~Q~~AAQLM~~D~~ELPD~~M~~NR~~I~~G~~L~~S~~P~~~~P~~~~S~~E~~V~~~~L~~~~I~~~~R~~~~R~~~~Q~~~~Q~~RANDLSEY~~C~~E~~P~~A~~T~~~~S~~G

31207767.i

34862294.m VNY~~T~~AC~~A~~~~T~~~~L~~~~G~~PD~~H~~~~Y~~GT~~K~~~~L~~RK~~V~~~~T~~~~H~~E~~S~~PT~~G~~A~~K~~T~~C~~~~F~~~~C~~Y~~A~~G~~NN~~~~N~~~~G~~T~~S~~~~V~~~~E~~~~D~~~~G~~~~Q~~~~I~~~~P~~~~B~~~~I~~~~I~~~~Y~~~~T~~

10946852.m MNK2.h

35903023.d

34870347.m

10946850.m MNK1.h

1jkk_A

34935429.m lia8_A